

## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 19 APR 2006

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Applicant's or agent's file reference JL-23658-PCT	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. <b>PCT/KR2004/003226</b>	International filing date(day/month/year) <b>09 DECEMBER 2004 (09.12.2004)</b>	Priority date (day/month/year) 09 DECEMBER 2003 (09.12.2003)	
International Patent Classification (IPC) or national classification and IPC  <b>C07C 303/40(2006.01)i</b>			
Applicant  <b>CJ CORPORATION et al</b>			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a. ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_ containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand  <b>30 JUNE 2005 (30.06.2005)</b>	Date of completion of this report  13 MARCH 2006 (13.03.2006)
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer  MOON, Sun Heup  Telephone No. 82-42-481-5543 

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/KR2004/003226

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☒ This report is based on translations from the original language into the following language English which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))  
☒ publication of the international application (under Rule 12.4)  
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☒ the international application as originally filed/furnished

☐ the description:  
pages \_\_\_\_\_ as originally filed/furnished  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the claims:  
pages \_\_\_\_\_ as originally filed/furnished  
pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the drawings:  
pages \_\_\_\_\_ as originally filed/furnished  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_  
☐ the claims, Nos. \_\_\_\_\_  
☐ the drawings, sheets \_\_\_\_\_  
☐ the sequence listing (*specify*): \_\_\_\_\_  
☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_  
☐ the claims, Nos. \_\_\_\_\_  
☐ the drawings, sheets \_\_\_\_\_  
☐ the sequence listing (*specify*): \_\_\_\_\_  
☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/KR2004/003226

## Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1 - 6	YES
	Claims	NONE	NO
Inventive step (IS)	Claims	1 - 6	YES
	Claims	NONE	NO
Industrial applicability (IA)	Claims	1 - 6	YES
	Claims	NONE	NO

### 2. Citations and explanations (Rule 70.7)

#### 1. Reference is made to the following documents:

D1: US 4,880,841 A

D2: EP 257,787 A1

#### 2. Novelty and Inventive Step.

The present invention relates to a method of preparing an optically pure phenethylamine derivative which is an intermediate useful for preparing tamsulosin or its salts and a method of preparing tamsulosin or its salts using the optically pure phenethylamine derivative.

D1 relates to novel phenethylamine derivatives and the acid addition salts thereof, and more particularly to novel phenethylamine derivatives and the acid addition salts thereof exhibiting a strong  $\alpha$ -adrenergic blocking action and useful as an antihypertensive agent.

D2 relates to a new process for producing optically active benzenesulfonamide derivatives which are represented by the general formula (I) and a process for producing formula VII by further reacting optically active benzenesulfonamide derivatives.

The subject matter of the present invention differs from the disclosure of D1-D2 mainly in that the method of preparing an optically pure compound having formula 1 relates to react (R)-2-(4-methoxy-3-aminosulfonyl-phenyl)-1-methylethylamine or its salts with  $\alpha$ -halogenoacetic acid anhydride and  $\alpha$ -halogenoacetyl halide in the presence of a base and an acylating agent. And said optically pure compound having formula 1 further reacts with 2-ethoxyphenol in presence of a base and is reduced. It cannot be considered obvious to a person skilled in the art, with knowledge of the cited documents, to use an optically pure compound and an acylating agent and to reduce for increasing an yield of production and preventing a side reaction.

Therefore, the subject matter of the present claims 1-6 is considered to be novel and to involve an inventive step under PCT Article 33(2) and (3).

#### 3. Industrial Applicability

The subject matter of claims 1-6 is considered to be industrially applicable under PCT Article 33(4).